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T E N N E S S E E V A L L E Y A U T H O R I T Y

Reservoir Operations *Study*



Valley Citizens Weigh In

With the help of thousands of citizens across the Valley, we've reached a major milestone in our Reservoir Operations Study. We've gathered the input we need to define the scope of the study. Members of the public have told us what issues they want addressed and what changes they want considered. Inside, you'll find a summary of that input, along with important information on future opportunities for public involvement.

A letter from the Project Manager

David Nye Reports on Progress to Date, Challenges Ahead



In the past few months, we've heard from thousands of citizens across the Tennessee Valley and gained a better understanding of what the public values most about the Tennessee River and reservoir system.

We now have a sound basis for identifying alternatives for how the system might be managed. Over the coming months, TVA will carefully analyze these alternatives to understand the consequences of changing

the way TVA currently operates the system—focusing on what matters most to the people of the Valley at each step along the way.

To everyone who participated in the process, I'd like to offer this assurance: your voice was heard. Each and every comment was captured and noted. This includes viewpoints that were expressed over and over again, as well as what may have been a unique concern voiced by only a single person.

The computer technology used at the workshops helped us achieve this objective, and we were gratified by the response. Many citizens told us that, by using a variety of ways to record comments, they were assured that all opinions would be counted. Others told us that the workshops helped them become more aware of the concerns of other stakeholders and how their special interests fit into the big picture of operating the entire Tennessee River system.

If we didn't hear from you during the scoping period, please note that public review and comment opportunities will occur again next year when the draft Environmental Impact Statement is issued.

If you submitted comments during scoping, thank you for participating. I hope you'll decide that this important effort is worth your continued involvement. Public values and priorities change over time, and TVA needs to hear from everyone whose quality of life is enhanced by the operation of the reservoir system.

David J. Nye



A B O U T T H E S T U D Y

TVA is conducting the Reservoir Operations Study to determine if changes in TVA's policies for operating the reservoir system would produce greater overall public value. These policies guide the integrated operation of TVA dams and reservoirs for year-round navigation, flood-risk reduction, low-cost and reliable electricity, improved water quality, sustainable economic development, water supply, recreation, and land use.

TVA is conducting the study in keeping with the National Environmental Policy Act, known as NEPA. The first phase of the NEPA process is the scoping phase, in which members of the public and others help identify issues and alternatives the study should consider. This publication presents highlights of the scoping report.

In the months ahead, TVA will evaluate the policy options identified by stakeholders during the scoping process and develop a range of alternatives to be included in the draft Environmental Impact Statement (EIS). These alternatives will be analyzed in detail to determine whether they would increase overall public value as defined by the values and issues identified by the public during scoping.

TVA plans to distribute the draft EIS for public review and comment and conduct another set of community workshops in summer 2003. The draft EIS will document the results of the technical analyses and identify TVA's preferred alternative for operating the system.

A decision from the Reservoir Operations Study is expected in winter 2003.

Highlights of Scoping Results

Citizens Call for Change

TVA asked the citizens of the Valley to help define the scope of the Reservoir Operations Study, and they responded. About 1,300 members of the public attended the 21 community workshops held across the region, and thousands more wrote letters or submitted comments to TVA by e-mail, fax, or telephone.

The public comment period officially began on February 25, 2002 when TVA published a Notice of Intent to prepare an Environmental Impact Statement in the *Federal Register*. By April 26, 2002, when the public comment period closed, TVA had received more than 6,000 individual comments, copies of form letters from about 4,200 individuals, and petitions signed by more than 5,400 individuals. That input is summarized below.

In addition, 3,600 citizens throughout the TVA power service area responded to a random telephone survey conducted by an independent opinion research firm in March 2002. The results of this survey are summarized on page 4.

Key Findings

Overall, members of the public who attended the community workshops placed a high value on recreation, a healthy environment, and water quality.

When asked to respond to an open-ended question on what they value most about the Tennessee River system, about one-third of the workshop participants said they place the greatest value on reservoir and downstream water-based recreation opportunities. For about a third of the workshop participants, the most important concern was protecting the natural environment.



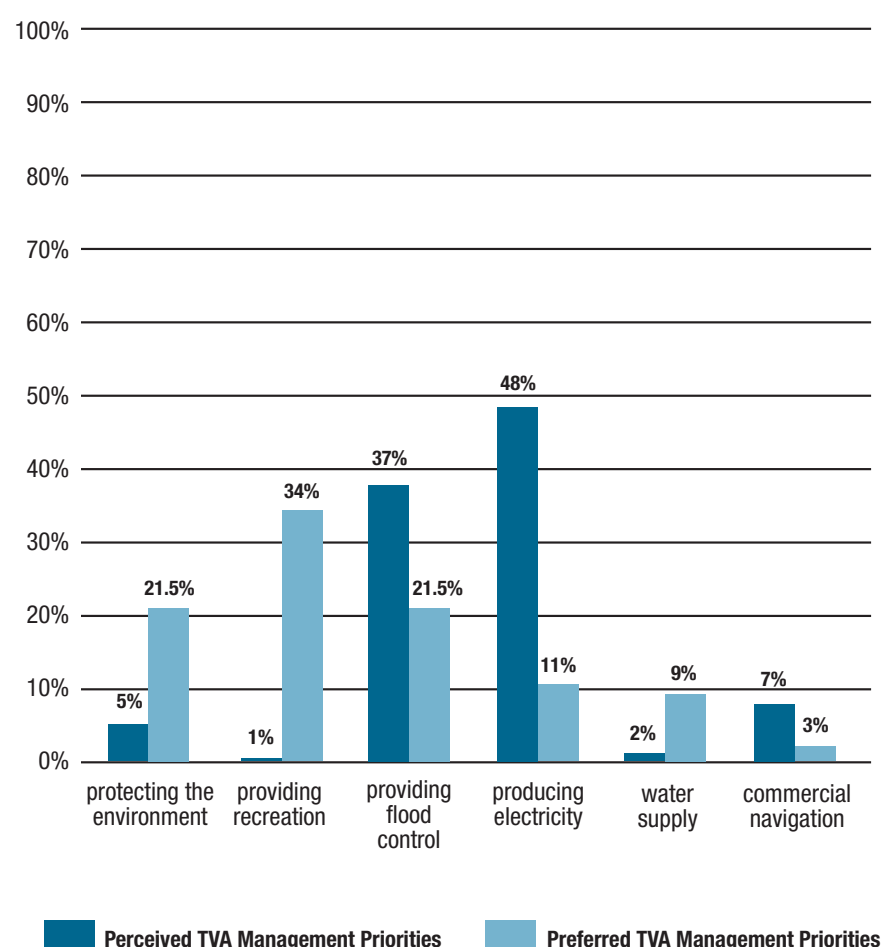
Many people, including the 5,400 individuals who signed petitions, said they wanted TVA to increase recreational opportunities in a variety of ways: by holding reservoir water levels stable; extending summer reservoir water levels; filling reservoirs earlier to improve fish

spawning and fishing opportunities; and increasing the amount of water released from some dams for fishing and boating.

Nearly 4,000 people asked that TVA change its operating policies to protect the diversity of aquatic life and, specifically, to protect endangered, threatened, and other at-risk species.



While community workshop participants believed electricity to be TVA's highest priority, they preferred that TVA put priority on providing recreation, protecting the environment, and providing flood control.



Telephone Survey Ranks Environmental Protection, Power Production as Top Priorities



Members of the public review group advising Project Manager David Nye on the Reservoir Operations Study felt strongly that a telephone survey should be conducted to supplement the input received from citizens who attended community workshops or provided comments in other ways.

The reason, according to Austin Carroll, general manager of the Hopkinsville Electric System and a member of the public review group, was to give those who usually don't get involved with TVA issues a voice in the Reservoir Operations Study.

"The people in the region who have a vested interest in wanting to change or keep the current balance of TVA's reservoir operations are already in communication with TVA. But it's important to understand the priorities of the silent majority, so TVA's obligations to the greater population are fully understood by decision-makers," he said.

To meet that need, Davis, Hibbitts & McCaig, Inc., an independent public opinion research firm, conducted a telephone survey of registered voters in the TVA power service area.

The telephone survey was conducted in March 2002, in advance of the community workshops, so that media coverage of the workshops and the study would not bias the public's responses. A total of 3,600 respondents were reached through random-digit dialing. Respondents identifying themselves as registered voters were asked a series of open- and close-ended questions about the Tennessee River system and its management.

Excerpts from the summary of key findings prepared by Davis, Hibbitts & McCaig (DHM) follow.

What do you value about the Tennessee River system?

DHM: "Recreation, and specifically fishing, has an almost defining importance for the people of the region. When asked, in an open-ended question, what they valued about the Tennessee River system of lakes and reservoirs, almost one-half said recreation and one in five volunteered fishing. More than one-third (36 percent) talked about the region's beauty, scenery, landscape, environmental amenities, and low pollution levels, including water quality of the region, and another 23 percent noted the environment generally as an important value."

What do you see as the biggest threats or problems to the Tennessee River system?

DHM: "Almost three of every four (73 percent) respondents mentioned something related to pollution, with 16 percent specifying industrial or agricultural sources—a finding which dovetails with the high value placed on recreation and fishing. An additional 7 percent also mentioned water levels or supply, flooding or drought as threats or problems."

"It's important to understand the priorities of the silent majority, so TVA's obligations to the greater population are fully understood by decision-makers."

— Austin Carroll, General Manager, Hopkinsville Electric System
and Member, TVA Regional Resource Stewardship Council

Is there anything in particular about how TVA manages the Tennessee River system that you like?

DHM: "Nineteen percent of respondents simply said 'good job'; 14 percent liked the environmental control, monitoring or protections; and 13 percent mentioned recreation management opportunities. More than one-third (36 percent) were unsure or did not respond at all, perhaps indicating a lack of familiarity with the agency's role and responsibilities."

Is there anything in particular about how TVA manages the Tennessee River system that you dislike?

DHM: "Most respondents were unsure or did not respond (34 percent). Only 11 percent mentioned poor environmental protection, too

much pollution, or too much growth, followed distantly by mention of water levels, dams, flood control or water supply (5 percent)."

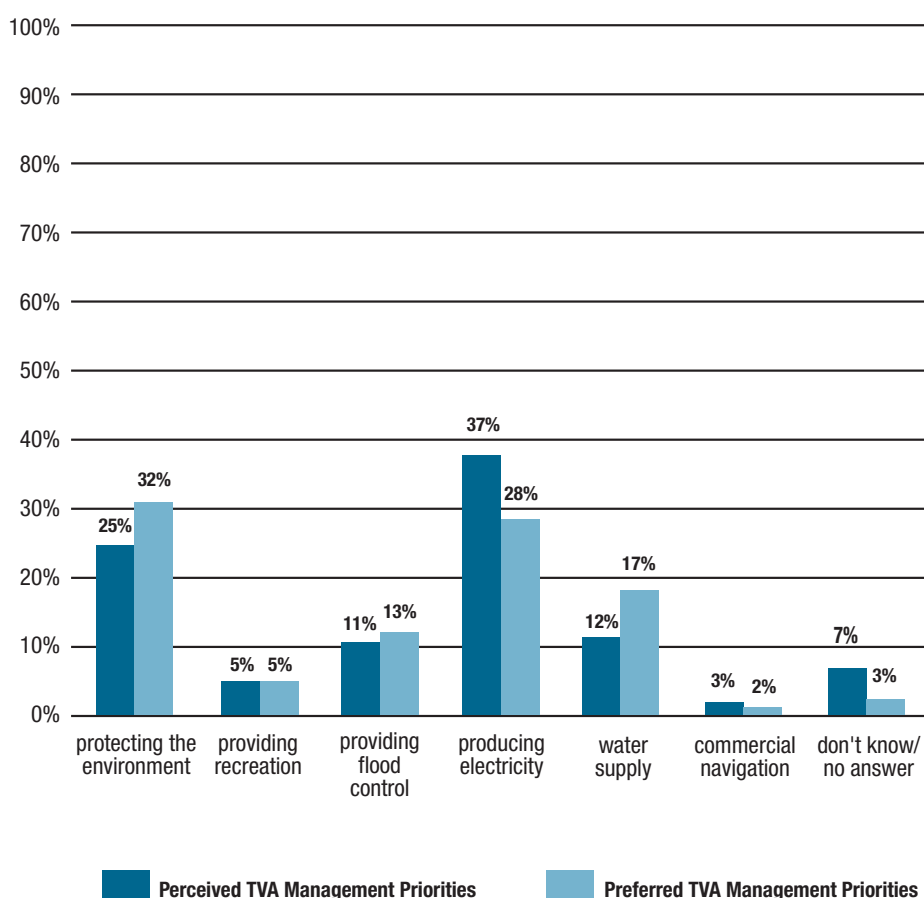
What is TVA's highest priority for managing the Tennessee River system at the present time?

DHM: "Electricity production is perceived to be TVA's highest priority (37 percent) with protection of the environment second (25 percent). All other identified priorities were grouped in a second tier of lower priority: water supply (12 percent) and flood control (11 percent) were similarly assessed as relatively low priorities by TVA management. Recreation (5 percent) and commercial navigation (3 percent) were perceived as low TVA priorities."

What do you think should be TVA's highest priority?

DHM: "While people believed electricity production to be TVA's highest priority (28 percent), they, in fact, wanted environmental protection to be the top priority (32 percent). Given earlier findings, it is perhaps somewhat surprising the respondents both perceived and wanted TVA's priority for providing recreation to be low (5 percent). However, it is unclear how they defined recreation. It may be that recreational services are more likely associated with other, more visible, government agencies like state and national parks. More than one in four respondents could not or would not choose a single priority they valued most for TVA. This 'flat' response also may indicate that respondents have multiple interacting values for TVA."

While telephone survey respondents believed electricity production to be TVA's highest management priority, they preferred that TVA put priority on environmental protection.



R E C R E A T I O N U S E S T U D Y U N D E R W A Y

The process of gathering public input related to TVA's management of the river system is continuing, with a special focus on recreation use.

Interviews with recreation users are being conducted on 13 TVA reservoirs and seven adjacent tailwaters, the sections of river immediately below the dams.

The data-collection effort, or Recreation Use and Economics Effects Study, is being conducted by an independent survey research firm. It will give TVA a more accurate picture of recreational use of the Tennessee River and reservoir system, as well as the effects of recreation-related dollars on the region's economy. The results will be used in evaluating the potential impact of reservoir operating alternatives identified as part of the Reservoir Operations Study.

The data collection began just before Memorial Day and runs through mid-October. Data will be collected at a variety of sites on each reservoir (for example, boat ramps, day-use areas, and campgrounds) at different times of the day, on different days of the week, and on weekends and holidays.

Interviewers assigned to each site will record the number of recreational users and vehicles and the types of activity observed at each location for a certain number

of hours. Individuals preparing to leave the site will be asked a series of questions about their recreational experience: how often they spend time on or near the water, where they go, what they do, and how much money they usually spend.

Similar information will be obtained by mailing a response form to shoreline property owners randomly selected from a list of applicants for boat dock permits and by polling marinas, campgrounds, and other commercial operators.

After the sampling is complete, the data will be analyzed by the research firm conducting the study. The results will be used to show the volume of recreation use and to project potential effects of changes in how TVA manages the system. Data from other sources will be used as well—for example, studies on fishing use conducted by the Tennessee Wildlife Resources Agency and recreation-spending profiles developed by the U.S. Army Corps of Engineers for reservoirs that border the Tennessee Valley.



Moving Forward

Process Identifies Issues and Shapes Policy Options

Scoping, the first step in the process of preparing an Environmental Impact Statement under the guidelines of the National Environmental Policy Act, ended on April 26 after a public comment period.

TVA then analyzed all the input received with two key goals: (1) to establish reservoir operating objectives that reflect the values and issues identified by the public during scoping, and (2) to identify the operating alternatives that should be evaluated in the next phase of the Reservoir Operations Study. The results, described below, define the scope of the study.

Issues

As a starting point in identifying issues, TVA staff reviewed the input already provided by members of the Regional Resource Stewardship Council, TVA's citizen advisory group.

Additional input was provided by an interdisciplinary team of TVA technical experts; a public review group of 13 citizens; and an interagency review team, including representatives from 12 federal agencies and six Valley states.

This information was used in designing the community workshops and in developing the questions for the telephone survey.

Issues identified by community workshop participants and by people who contacted TVA by phone, fax, and e-mail were added to the initial issue list, then sorted into categories.

This process resulted in the identification of the following 11 major issues to be addressed in the study. Objectives, measures, and criteria are being developed for each of these issues, which will be

used to evaluate potential effects of changes to existing reservoir operating policies:

- **Reservoir and downstream water quality**, as associated with dissolved oxygen, temperature, ammonia, wetted area (the area of river bottom covered by water), velocity, algae, and assimilative capacity (the river's capacity to accept and dilute wastewater).

- **Environmental resources**, specifically related to aquatic resources, erosion and sedimentation, visual resources, cultural resources, federal and state-listed species, wetlands, and ecologically sensitive areas.

- **Reservoir levels**, including reservoir elevations and when reservoirs fill and are drawn down each year.

- **Recreation flows**, related to TVA's ability to schedule releases for tailwater recreation, including fishing, rafting, canoeing, and kayaking below TVA dams.

- **Economic development**, associated with tourism and recreation expenditures, property values, and navigation, as well as with power costs and power system reliability.

- **Water supply**, including reservoir and downstream intakes and potential inter-basin transfers.

- **Navigation**, including impacts to channel depth, the speed of the current, and water levels.

- **Flood risk on regulated waterways**, including how much space is available in TVA reservoirs for storing floodwaters, how fast it can be recovered after a flood event, and costs related to property damages and jobs lost or disrupted due to flooding.

- **Power reliability**, including the availability of cooling water at fossil and nuclear plants, fuel delivery by barge for fossil plants, and restrictions on operating hydropower generating units during periods of critical power demands.

- **Cost of power**, as affected by hydropower generation, including



total megawatt hours, seasonal availability, and value during high-cost periods.

■ **Capital costs**, associated with implementation of changes to reservoir operations, including modifications, upgrades, additions, and removal of structures and equipment.

Potential impacts on other issues also will be addressed but are not expected to require detailed evaluation. These are air quality, climate, geology, groundwater, aquatic plants, invasive species, mosquito control, and terrestrial ecology (plant and animal life on the land surrounding reservoirs).

Policy Options

Careful analysis of every comment received during the scoping process resulted in a list of more than 60 possible ways to change TVA's reservoir operating policies.

TVA technical experts worked with the public review group and the interagency team to refine this list. Options that clearly would not provide overall greater public value were eliminated first. In addition, the list was then reviewed a second time to eliminate options that would result in significant adverse impacts to water quality, navigation, flood risk, recreation, economic development, power generation, and other issues (listed above) identified as a result of stakeholder input.



Finally, a third evaluation was made to identify which of the remaining options would likely result in the most improvement in overall public value as defined by potential benefits to the same list of issues.

Through this process, these policy options were identified for detailed evaluation in the draft Environmental Impact Statement:

Main-River Reservoir Options:

- Change (raise or lower) winter and/or summer pool elevations.
- Fill reservoirs to summer levels earlier.
- Delay the summer drawdown until later in the year.

Tributary Reservoir Options:

- Change (raise or lower) maximum and/or minimum summer pool elevations.
- Raise winter pool elevations.
- Fill reservoirs to summer levels earlier.
- Delay the unrestricted drawdown until later in the year.
- Replace the unrestricted drawdown with a restricted, or stepped, drawdown.
- Provide tailwater flows to support fishing and boating below TVA dams.
- Modify the rate of flood storage recovery, drawing reservoirs down more slowly.



Options Applying to All Reservoirs:

- Increase minimum flows to improve water quality and biodiversity.
- Decrease power generating costs and increase power system reliability.

In the months ahead, TVA will evaluate various combinations of these options to develop specific alternatives to existing reservoir operating policies. Detailed technical analyses will be conducted to compare the potential benefits and adverse effects of these alternatives, which will likely be refined based on the results.

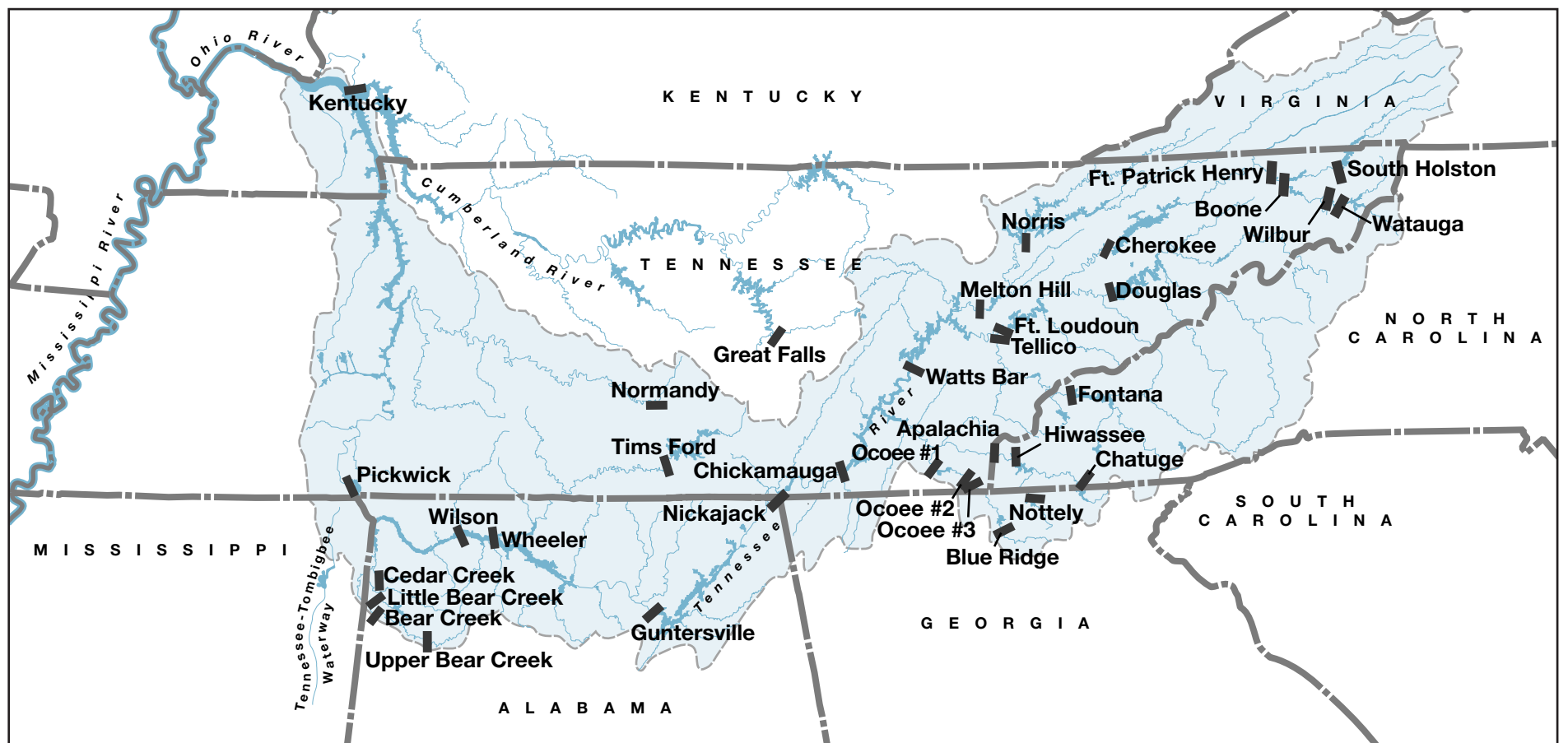
Once specific alternatives have been identified, the potential effects of each will be compared to the No-Action Alternative, as required under the National Environmental Policy Act. Under this alternative, described below, TVA would continue to operate individual reservoirs in accordance with existing policies.

No-Action Alternative:

- Continue to fill tributary reservoirs to reach summer levels by June 1.
- Continue to begin the unrestricted drawdown on August 1.
- Maintain present minimum flows and dissolved oxygen targets.
- Maintain current rate for recovering flood storage capacity.

Results of all these evaluations will be used to identify a preferred operating policy alternative to be included in the draft EIS.

Reservoirs Included in the Study



The Reservoir Operations Study includes 35 TVA dams and reservoirs, shown on the map above.

These dams and reservoirs are operated as an integrated system to provide a variety of benefits to the citizens of the Tennessee Valley, including year-round navigation, flood risk reduction, low-cost and reliable electricity, improved water quality, sustainable

economic development, water supply, recreation, and land use.

TVA also manages 14 other projects, which are not included in the study because they would not be significantly impacted by changes in reservoir operating policies. Most are small water-retention dams that are essentially self-regulating by means of overflow outlets.

F O R M O R E I N F O R M A T I O N

We are pleased to share these highlights of the scoping report for the Reservoir Operations Study. The full report may be viewed at TVA's Web site at www.tva.com.

You may request a printed copy of the full scoping report by writing to David Nye, ROS Project Manager, Tennessee Valley Authority, WT 11A, 400 West Summit Hill Drive, Knoxville, TN 37902.

The report is also available through public libraries in these Valley communities:

Alabama – Decatur, Guntersville, Huntsville, Muscle Shoals

Georgia – LaFayette, Ringgold, Young Harris

Kentucky – Benton, Bowling Green, Murray

Mississippi – Starkville, Tupelo

North Carolina – Bryson City, Murphy

Tennessee – Blountville, Chattanooga, Clinton, Cookeville, Johnson City, Knoxville, Lenoir City, Loudon, Memphis, Morristown, Nashville, Norris, Paris, Savannah, Tullahoma

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Additional information about the Reservoir Operations Study is available at www.tva.com and by calling toll-free 888-882-7675.

